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(54) Combined footbath, washbasin and dryer

(57) A foot washing and air drying machine comprises a body (1) divided by a partition (18).

The front washing tub (4) is provided with a hinged lid (7) through which the user pushes a foot and rests it on the bottom base (6) .

A sensor (52) in the tub detects the users foot and sends a signal to the control unit (14) to operate the washing and air drying system automatically. The rear compartment (12) contains all the operating equipment.

A hand wash basin (30) with a tap (32) and sensor (46) is mounted on the top of the foot washing and air drying machine body (1) and is provided with connecting pipes, drain pipe (34) water pipe (36) air dryer pipe (40) and a sensor (44). The sensors (44) and (46) detect the users hand and send a signal to the control unit (14) to operate the system automatically.

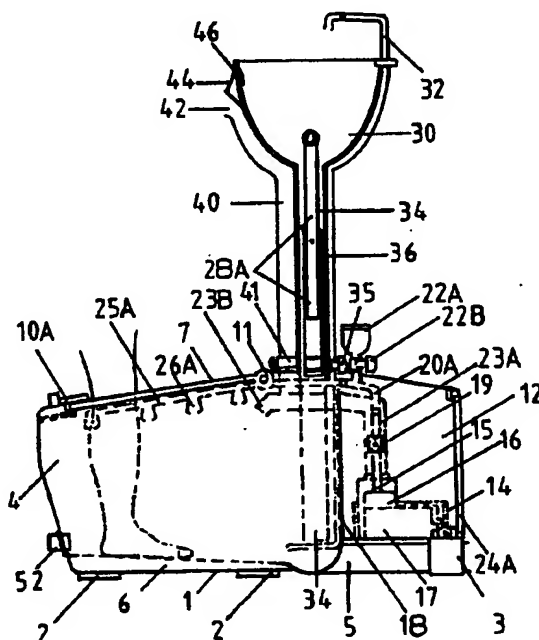


FIGURE - 3 -

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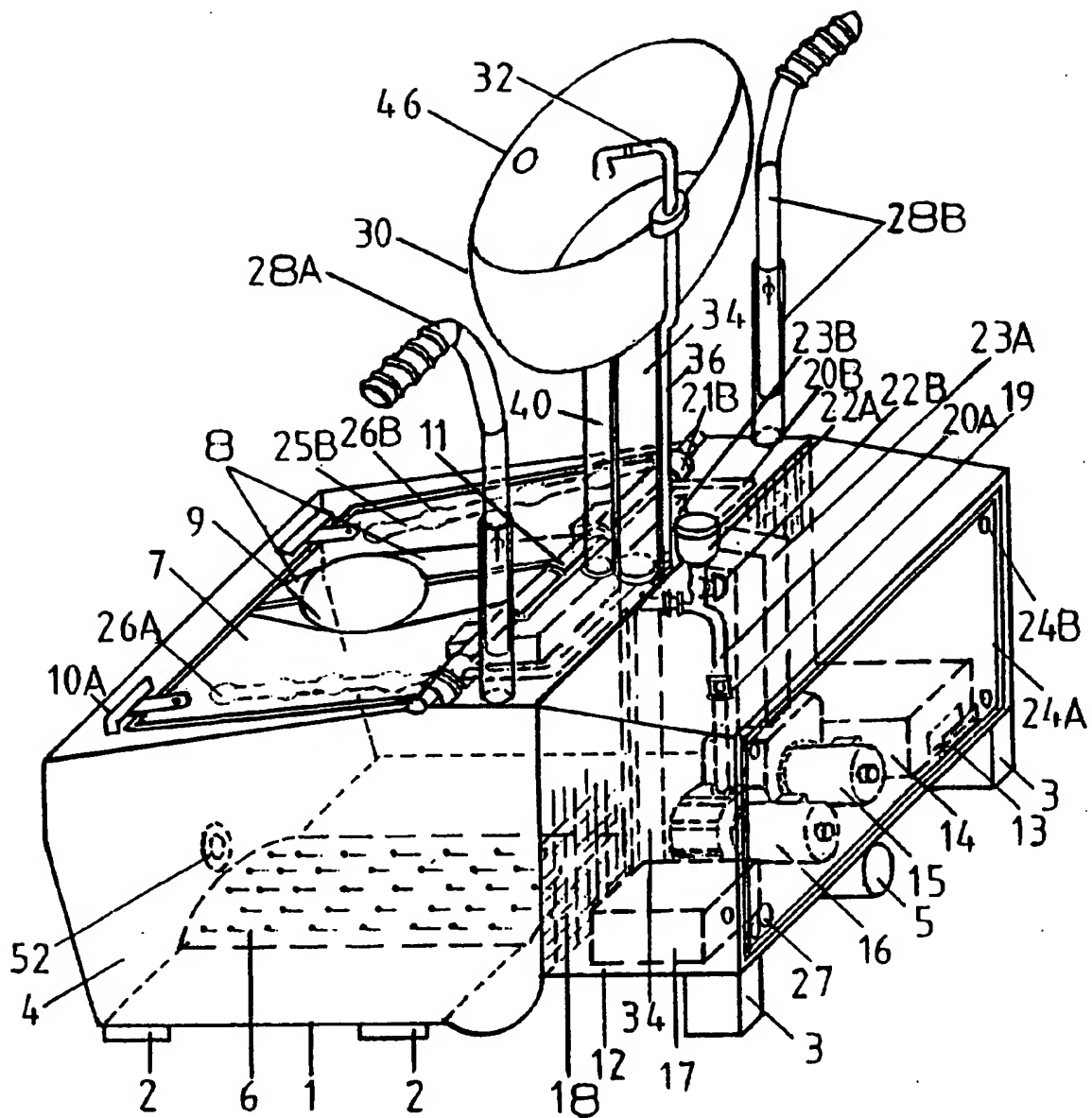


FIGURE-1 -

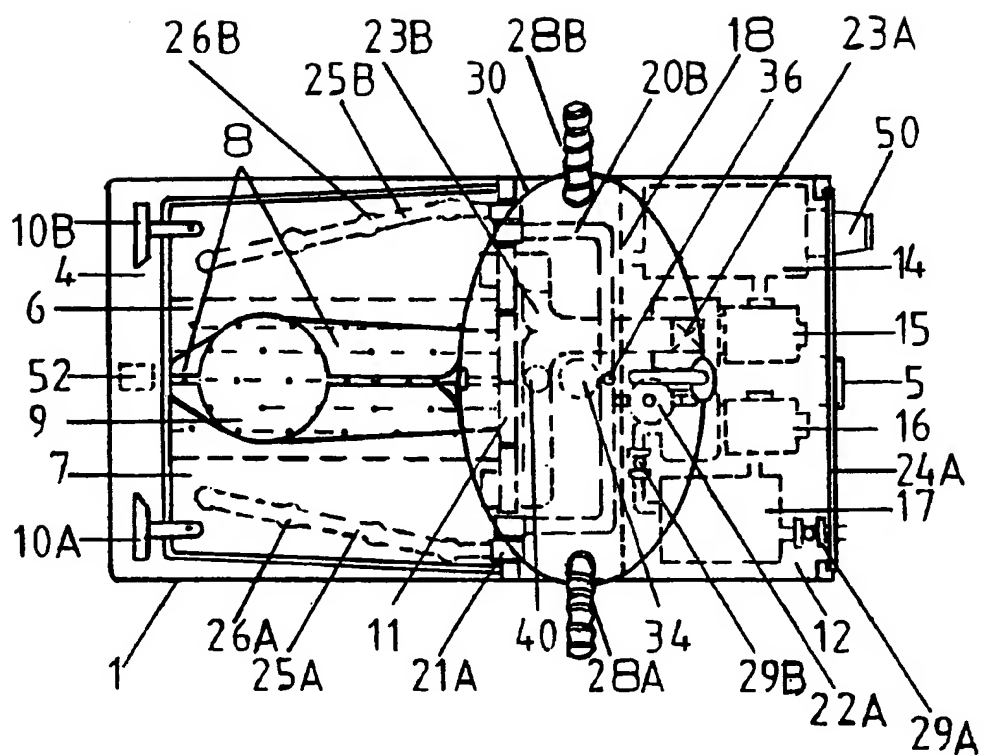


FIGURE - 2 -

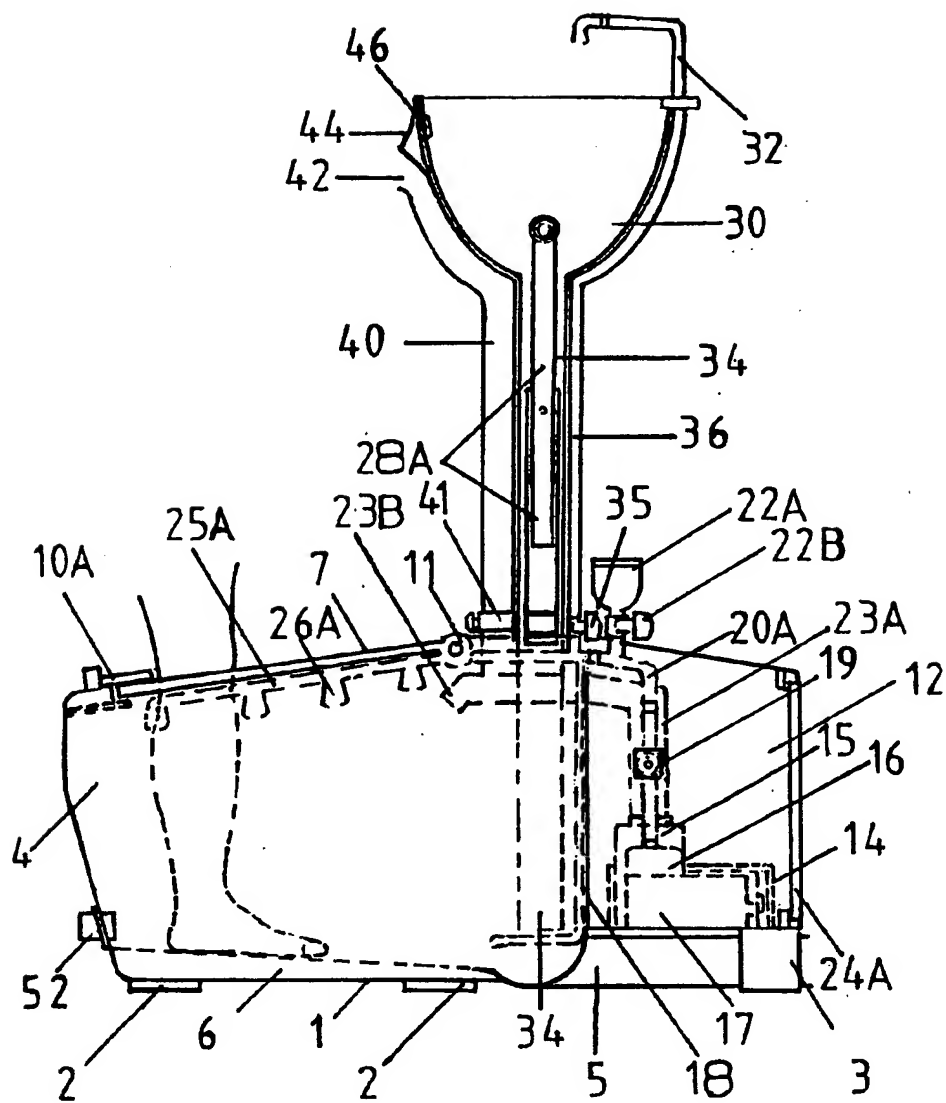


FIGURE - 3 -

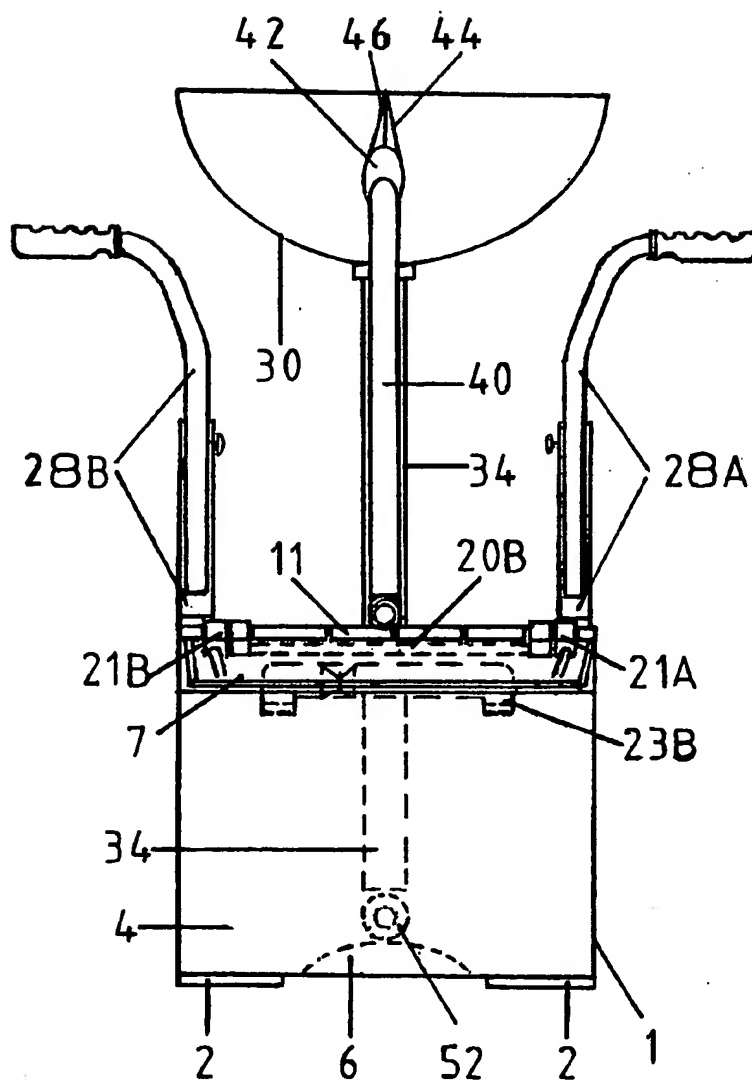


FIGURE - 4 -

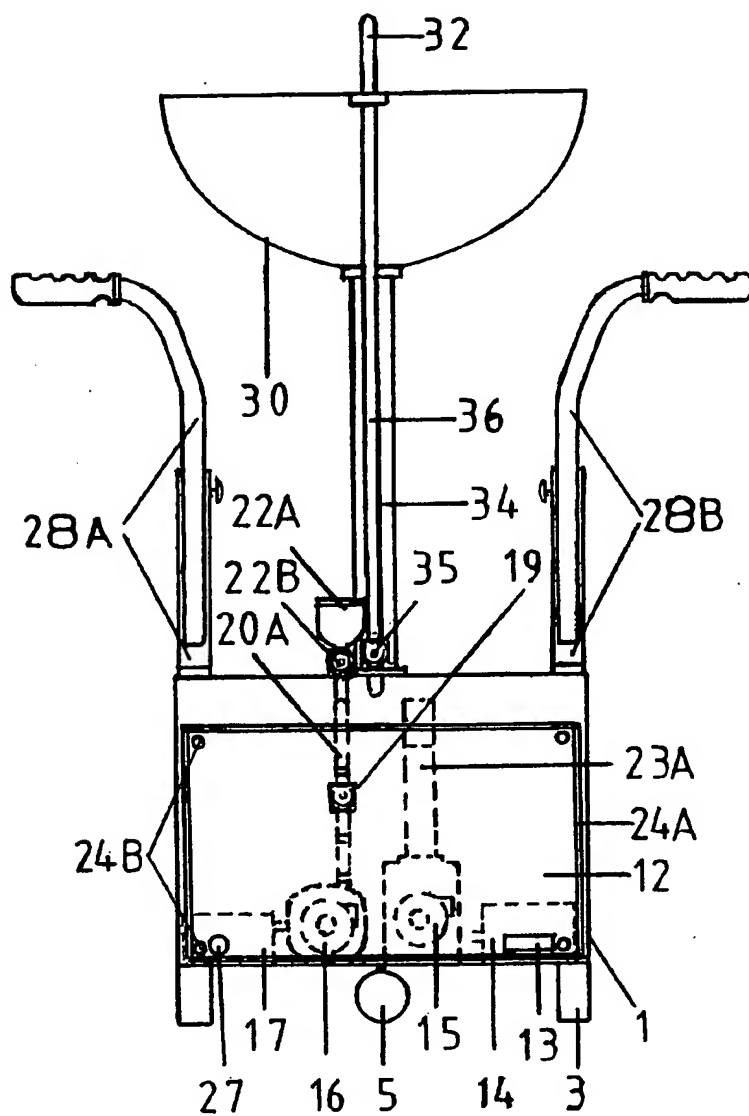


FIGURE-5-

(1)

Fully automatic foot washing and air drying machine with a hand wash basin and air dryer.

This invention relates to a fully automatic foot washing and air drying machine with a hand wash basin. It has an air dryer pipe attached to the hand wash basin. Mounted on top of the foot washing and drying machine body are the connecting drain pipe, air dryer pipe and water pipe.

The operation of the fully automatic foot washing and air drying machine with a hand wash basin and air dryer is so easy that anyone can use it. There is no need to touch any switches or buttons to operate this invention because it is a fully automatic, user-friendly machine.

This machine has been designed for various purposes. Particularly in hot climates where many people wash their feet frequently it would be especially useful, but in addition it is of great use to persons with disabilities, and those with special needs. The hand wash facility could also be omitted for those who require a machine only for foot washing and drying.

According to the present invention there is provided a fully automatic for washing and air drying machine with a hand wash basin and air dryer. The machine body is constructed of a non-corrosive, durable material with a partition inside the machine body which created two sides. The front side of the washing machine body forms a washing tub with a drain pipe attached to the side of the base of the tub. The top of the tub is provided with a hinged lid.

In the middle of the tub lid there is an opening through which the user pushes the foot and rests it on the bottom of the tub of the automatic foot washing and air drying machine.. When the user's foot reaches the bottom of the tub, the sensor inside the tub area produces an output signal in response to the detection of the users foot in the tub. It then sends a signal to the control unit to begin to operate the system automatically.

(2)

Underneath the tub lid are separate pipes with adjustable nozzles for spraying water around the users foot from all sides. Beneath the top of the tub body is an air duct which allows a flow of air around the users foot to dry it automatically after the washing process is complete.

The rear side of the foot washing and air drying machine body in the form of a compartment with a panel held on by screws. Inside the compartment is a unit which contains all the instruments of the electrical control systems and the operating equipment, electric water heater, electric water pump, pipes, valves, fittings and electric hot air dryer. In the top of the compartment there is a container for the sanitising cleaning liquid, which is mounted on the solenoid valve connected with the top of the water pump inside the compartment.

For the safety of the user it would be preferable to reduce the risk of electric shock by providing the machine with a low voltage electric supply.

At the top of the foot washing and air drying machine body surface there are two adjustable handle posts to act as support for the user when using the foot washing and air drying machine.

The hand wash basin is mounted on top of the body of the automatic foot washing and air drying machine. The drain pipe from the basin connects through the top of the foot washing machine body. The tap and water pipe is attached to the hand wash basin and connected with the top part of the foot washing machine through a solenoid valve. When the user places the hand beneath the tap inside the hand wash basin, the sensor inside the basin area detects the hand and produces an output signal instructing the control unit to operate the water system automatically.

The air dryer pipe with an opening is attached to the front side of the basin and is connected to the air drying duct inside the foot washing and drying machine through an air solenoid valve. When the users hand reaches near the top opening of the air dryer pipe, the sensor on the top of the air dryer pipe detects the users hand and sends a signal to the control unit to operate the air dryer equipment automatically.

(3)

The embodiment of the invention will now be described by way of example with reference to the accompanying drawing in which:

Figure 1 shows in perspective a complete diagram of the body of the automatic foot washing and air drying machine with hand wash basin and air dryer and handling posts.

Figure 2 shows the top view of the automatic foot washing and air drying machine with hand wash basin and air dryer.

Figure 3 shows a side view of the automatic foot washing and air drying machine with hand wash basin and air dryer, and the pipes on top.

Figure 4 shows from the front side of the automatic foot washing and air drying machine with hand wash basin and air dryer, basin, pipes and handling posts.

Figure 5 shows from the rear side of the automatic foot washing and drying machine with hand wash basin and dryer, the compartment and hand wash basin, pipes and handling posts.

(4)

Referring to the drawing:

Figure 1: Showing a preferred embodiment of the fully automatic foot washing and air drying machine body 1. With a hand wash basin 30 mounted on top of the machine body 1 by pipes support 34, 36, 40, fixed on the top of the body 1.

Inside the body 1 in the foot washing and air drying machine is a partition 18 dividing the body 1 into two sides. The front side 4 and the rear side 12 shown in fig 1-3. The underneath of the front side of the body 1 is attached with leg 2 and the rear side of the body 1 is attached with leg 3 for resting the foot washing and drying machine body on the ground as shown in fig 1-5.

The front side of the foot washing and air drying machine body in the form of a washing tub 4, with drain pipes 5 crossing underneath the rear side of the body 1 as shown in fig. 3

On top of the tub 4 there is provided a hinged lid 7. On the lid 7 there is a catch 10a and 10b to clip to the top of the tub body 4. The lid 7 hinges 11 on the top of the tub 4 to be opened and closed for cleaning the inside of the tub 4 when required. Shown in fig 1, 2 & 3.

In the middle of the lid 7 there is an opening 9 surrounded by a soft rubber panel 8 as shown in fig. 1 & 2. The opening 9 in the middle of the lid 7 is for the user of the foot washing and air drying machine to push the foot through the opening 9 to rest the foot on the bottom of the tub base 6 for washing and drying as shown in fig. 3. When the user's foot reaches the base 6, the sensor 52 inside the area of the tub detects the foot and sends a signal to the receiver in the control unit 14 to operate the system automatically as shown in figs. 1 & 3.

Underneath the lid 7 of the tub 4 there are separate pipes 25a and 25b with adjustable nozzles 26 and 26b on each side underneath the lid 7 for spraying water around the users foot from all sides automatically, as shown in fig. 1, 2 & 3.

(5)

Near the top of the inside of the tub 4 there is an air flow duct 23b attached with the side of the tub 4, so that air can flow around the users foot to dry it automatically after the washing process is complete, as shown in fig 1-3.

The rear part of the automatic foot washing and air drying machine body is a compartment 12 with a panel 24a held by screws 24b as shown in fig 1.5

Inside the compartment 12 all the operating equipment of the automatic foot washing and air drying machine with hand wash basin and air dryer is contained as shown in figs. 1, 2, 3, &5.

The main water supply pipe connects with gate valve 29a through the opening 27 in the panel 24a . The opening 13 is used to connect the electric power supply through flex plug 50 to the control unit system 14 shown in fig 1.2.

The control unit 14 contains all the operating instruments. The electric water heater 17 to be connected with the main water supply pipe through the gate valve 29a and is also connected to the electric water pump 16 through gate valve 29b. Solenoid water valve 19 is connected to pipe 20a which is mounted with a pipe on the water pump 16. The pipe 20b inside the tub is connected with two flexible joint fittings 21a and 21b., and these joint fittings 21a and 21b are connected with pipe 25a and 25b underneath the lid 7 inside the tub 4 as shown in fig. 1 2,3.

The air duct 23a is mounted on the electric hot air dryer 15 and connected to air duct 23b inside the tub 4 as shown in figs. 1,2,3. The sanitising liquid container 22a is connected to the solenoid valve 22b which is mounted on the top of the compartment through the connecting pipe with pipe 20a. Inside the compartment shown in figs. 1,3, 5. At the top of the foot washing and drying machine body surface there are two adjustable handles 28a and 28b to act as support for the user.. The hand wash basin 30 is mounted on top of the machine body Supported by drain pipe 34 connected to the top body 1. The water pipe 36 and the basin tap 32 are attached to the hand wash basin 30 which is connected to pipe 20b inside the washing machine through solenoid valve 35 as shown in figs. 1,2 &5.

(6)

The inside area of the hand wash basin 30 contains a sensor 46 which detects the users hand inside the area of the basin 30 and sending a signal to the control unit 14 to operate the system automatically as shown in fig 1,3 & 4.

The opening 42 of the air dryer pipe 40 is attached to the front side of the hand wash basin 30 and connected to the air dryer duct 23b through the air solenoid valve 41.

Over the top of the pipe opening 42 is a sensor 44 to sense the users hand when it is near the opening 42 and sending a signal to the control unit to operate the system automatically as shown in fig 3&4.

CLAIMS

1: The fully automatic foot washing and air drying machine with hand wash basin and air dryer. The hand wash basin with a tap and air dryer pipe attached to the basin from the front side . The fully automatic foot washing and air drying machine with hand wash basin and air dryer has a hand wash basin mounted on the top of the foot washing and air drying machine body through connecting pipes, drain pipe , water pipe and air drying pipe. The inside of the body of the automatic foot washing and air drying machine with hand wash basin and air dryer is divided into two parts with a partition. The front part of the body in the form of a washing tub with a drain pipe attached to the bottom of the tub. The top of the tub is provided with a hinged lid with an opening in the middle of the lid. The rear part of the automatic foot washing and air drying machine forms a compartment with a panel held by screws. This compartment contains all the automatic operating equipment of the automatic foot washing and air drying machine with hand wash basin and air dryer.

The opening in the middle of the tub lid is for the user of the automatic foot washing and air drying machine is for the user to push the foot through and rest the foot on the bottom base of the tub for washing and drying automatically. When the users foot reaches the bottom the sensor inside the tub area detects the foot and sends a signal to the control unit to operate the washing and drying system automatically.

2: The automatic foot washing and air drying machine with hand wash basin and air dryer has separate pipes running underneath the tub^{lid} with adjustable nozzles for spraying water around the users foot from all directions.

3: The automatic foot washing and air drying machine with hand wash basin and air dryer . Beneath the top of the tub body is an air duct which allows a flow of air around the users foot after the washing process is complete and which dries the users foot.

4: The automatic foot washing and air drying machine with hand wash basin and air dryer, has a hand wash basin with connecting pipes mounted

(8)

on the top. The drain pipe of the basin connects through the top of the foot washing machine body.

5: The automatic foot washing and air drying machine with hand wash basin and air dryer has a tap and water pipe attached to the hand wash basin and is connected through the top of the foot washing machine body..

6: The automatic foot washing and air drying machine with hand wash basin and air dryer, operates when the user places the hand beneath the tap inside the hand wash basin. The sensor inside the basin area detects the hand and produces an output signal instructing the control unit to operate the water system automatically.

7: The automatic foot washing and air drying machine with hand wash basin and air dryer, has an air dryer pipe attached to the front side and is connected to the air drying duct inside the machine body through an air solenoid valve. When the user's hand reaches near the top opening of the air dryer pipe, the sensor detects the user's hand and sends a signal to the control unit to operate the air dryer system automatically.

8: The fully automatic foot washing and air drying machine with hand wash basin and air dryer as described herein with reference to figures 1-5 of the accompanying drawing.

Amendments to the claims have been filed as follows

CLAIMS

1. A fully automatic foot washing and drying machine the drying machine utilising a supply of air to dry the foot.
5
2. A fully automatic foot washing and drying machine according to claim 1 which is divided into two parts with a partition.
3. A fully automatic foot washing and drying machine according to claim 1 or claim 2 which comprises a body forming a washing tub and
10 having a drain pipe attached to the bottom of the tub.
4. A fully automatic foot washing and drying machine according to claim 3 which is provided with lid attached by a hinge to the tub wherein
15 an opening is provided in a middle portion of the lid.
5. A fully automatic foot washing and drying machine according to claim 4 as it depends from claim 3 in which the opening, in use, allows a user to push a foot through the opening and be rested on the bottom base
20 of the tub for automatic washing and drying.
6. A fully automatic foot washing and air drying machine according to claim 5, in which, in use, when the user inserts their foot through the opening and the foot reaches the bottom base a sensor inside the tub
25 detects the foot and sends a signal to the control unit to operate the washing and drying system automatically.
7. A fully automatic foot washing and drying machine according to claim 5 or claim 6 in which there are separate pipes running underneath

the lid which have adjustable nozzles adapted, in use, to spray water around the users foot from all directions.

8. A fully automatic foot washing and drying machine according to
5 any of claims 5 to 7 in which beneath a top portion of the tub body is an air duct which allows, in use, a flow of air around a users foot after the washing process is complete, to dry the users foot.
9. A fully automatic foot washing and drying machine according to
10 any preceding claim which comprises a compartment toward a rear portion which has a panel held by screws.
10. A fully automatic foot washing and air drying machine according to
15 claim 8 in which the compartment contains all of the automatic operating equipment of the automatic foot washing and drying machine.
11. A fully automatic foot washing machine according to any preceding claim which also incorporates a hand wash basin.
- 20 12. A fully automatic foot washing machine according to claim 11 in which the basin has a tap and a pipe for supplying air attached to the basin from the front side.
- 25 13. A fully automatic foot washing machine according to claim 11 or claim 12 in which the hand wash basin is mounted on top of the foot washing and drying machine body and is connected to the foot washing and drying machine through connecting pipes: a drain pipe, a water pipe and an air supply pipe.

14. A fully automatic foot washing and drying machine according to claim 13 in which the drain pipe of the basin connects through a top portion of the foot washing machine body.
- 5 15. A fully automatic foot washing and drying machine according to claim 13 or claim 14 in which a tap is provided on the hand wash basin and connected to the water pipe passing through a top portion of the foot washing machine body.
- 10 16. A fully automatic foot washing and drying machine according to claim 15 which, in use, operates when a user places a hand beneath the tap of the wash basin.
- 15 17. A fully automatic foot washing and drying machine according to claim 16 in which a sensor inside the basin area detects the users hand and produces an output signal instructing a control unit to operate the tap automatically.
- 20 18. A fully automatic foot washing and drying machine according to any of claims 13 to 17 in which the air supply pipe is attached to a front side of the wash basin and is connected to an air drying duct inside the machine body through an air solenoid valve.
- 25 19. A fully automatic foot washing and drying machine according to claim 18 which, in use, when a users hand reaches near a top opening of the air supply pipe, a sensor detects the users hand and sends a signal to a control unit to operate the air dryer system automatically.
- 30 20. A fully automatic foot washing and drying machine according to any preceding claim in which a low voltage power supply is utilised.

21. A fully automatic foot washing and drying machine according to any preceding claim in which a container adapted to contain a quantity of sanitising cleaning liquid is provided.

5

22. A fully automatic foot washing and drying machine according to any preceding claim which is fabricated from a non-corrosive material.

24. A fully automatic foot wash and drying machine according to any preceding claim which is provided with two adjustable handle posts to act as support for a user.

10

25. A fully automatic foot washing and drying machine substantially as described herein with reference to the accompanying drawings.

15



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Claims searched: 1-8

Examiner: D. Haworth
Date of search: 2 June 1997

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.O): A4N (N2D2)(N2X)

Int Cl (Ed.6): A47K 3/022, 3/03

Other: Online: WPI

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
A	GB 0696884 A (J. Wearham)	

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
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